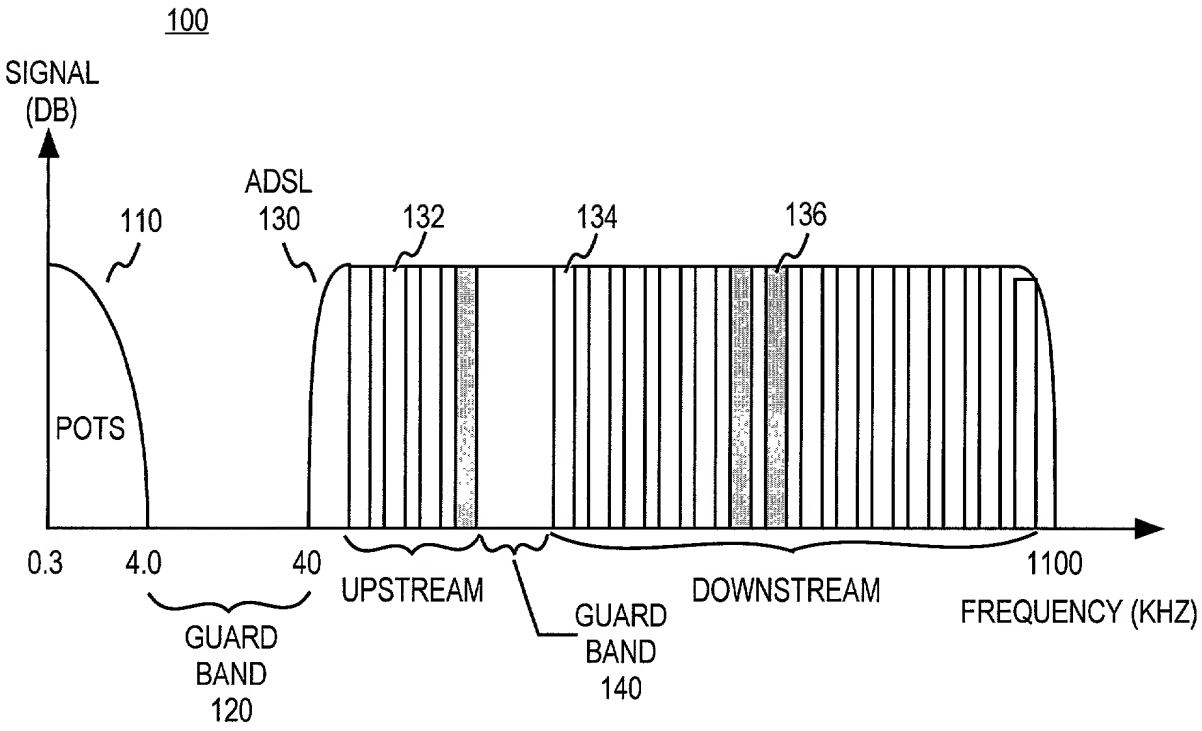
100
SIGNAL
(DB)
ADSL
130
110
132
134
136
POTS
0.3
4.0
40
UPSTREAM
DOWNSTREAM
1100
FREQUENCY (KHZ)
GUARD
BAND
120
GUARD
BAND
140

FIG. 1

TOTOBA 3874860

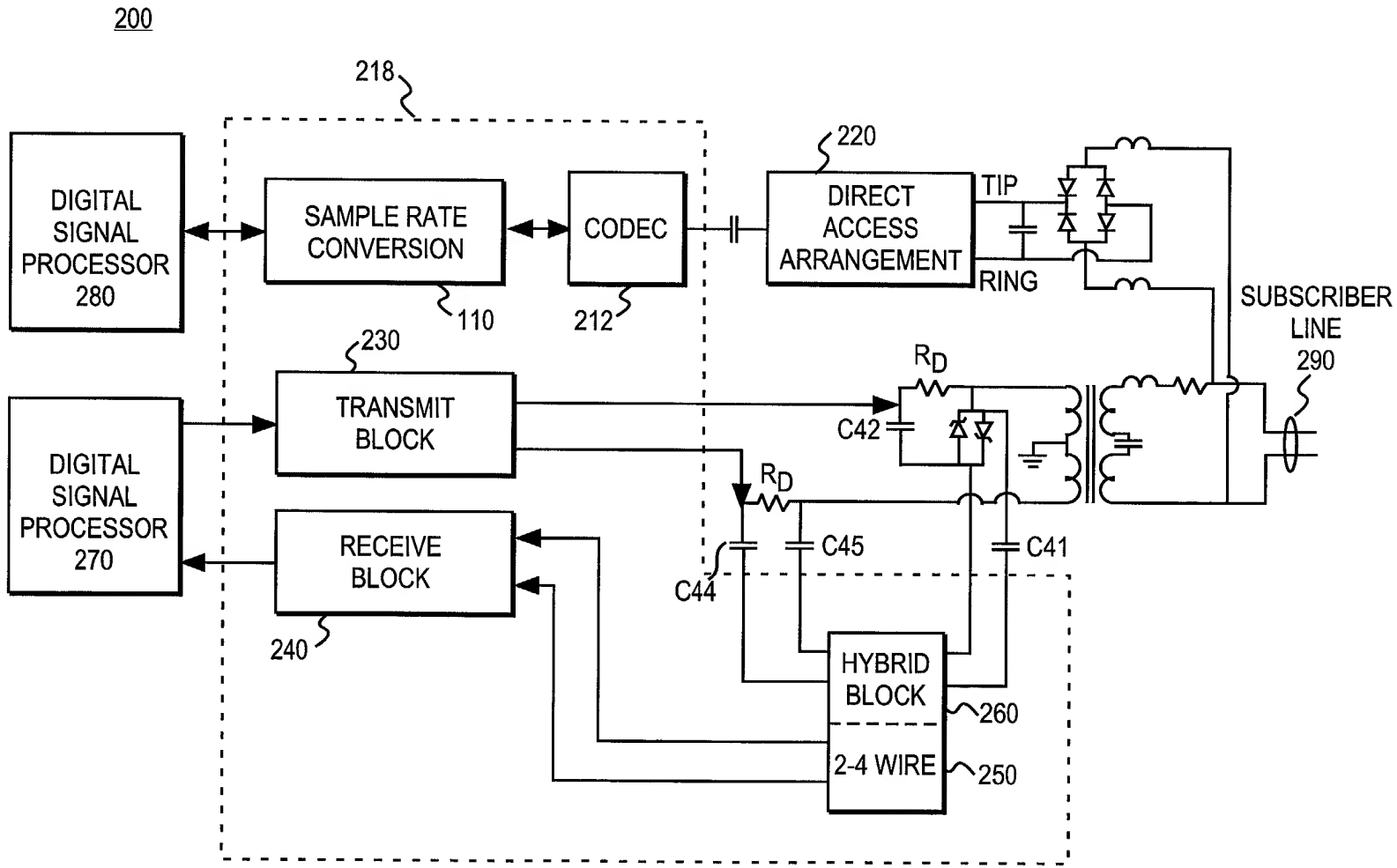

FIG. 2

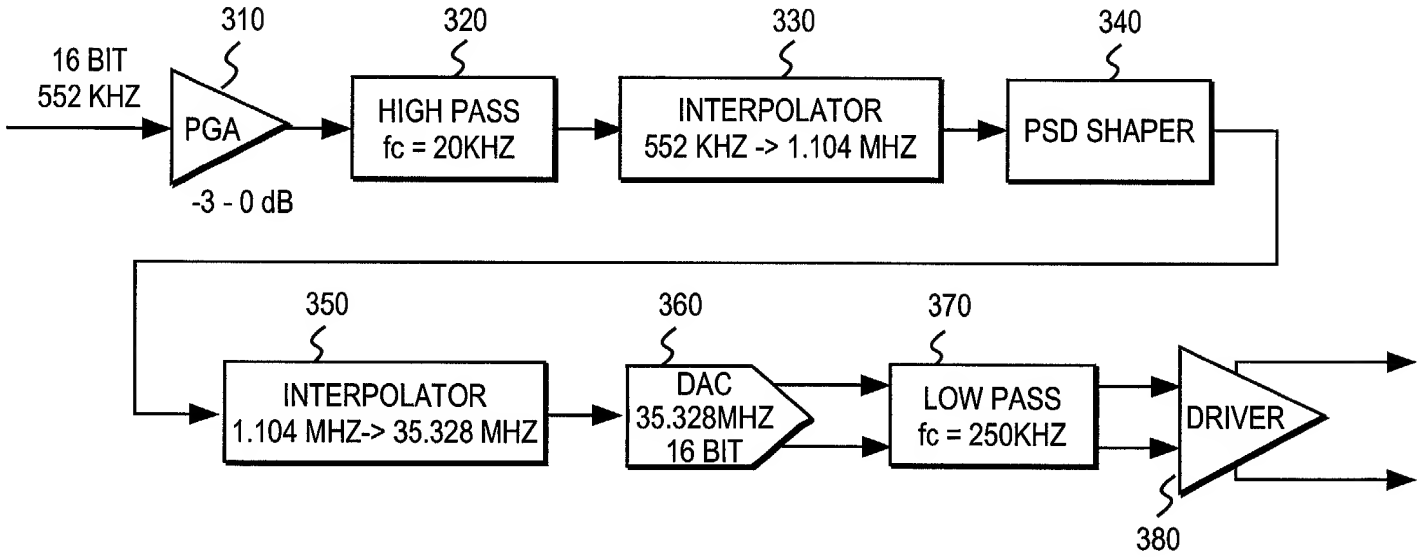
16 BIT
552 KHZ
310
PGA
-3 - 0 dB
320
HIGH PASS
fc = 20KHZ
330
INTERPOLATOR
552 KHZ -> 1.104 MHZ
340
PSD SHAPER
350
INTERPOLATOR
1.104 MHZ-> 35.328 MHZ
360
DAC
35.328MHZ
16 BIT
370
LOW PASS
fc = 250KHZ
DRIVER
380

FIG. 3

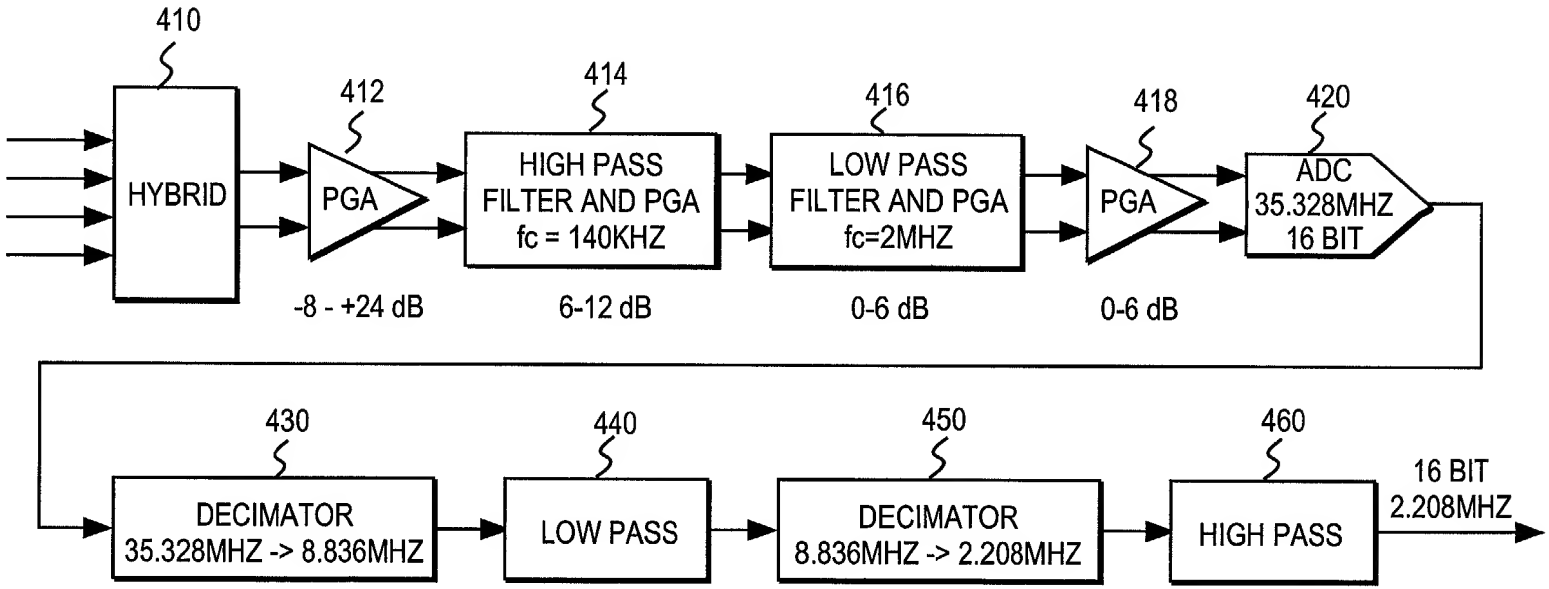
410
HYBRID
412
PGA
-8 - +24 dB
414
HIGH PASS
FILTER AND PGA
fc = 140KHZ
6-12 dB
416
LOW PASS
FILTER AND PGA
fc=2MHZ
0-6 dB
418
PGA
0-6 dB
420
ADC
35.328MHZ
16 BIT
430
DECIMATOR
35.328MHZ -> 8.836MHZ
440
LOW PASS
450
DECIMATOR
8.836MHZ -> 2.208MHZ
460
HIGH PASS
16 BIT
2.208MHZ

FIG. 4

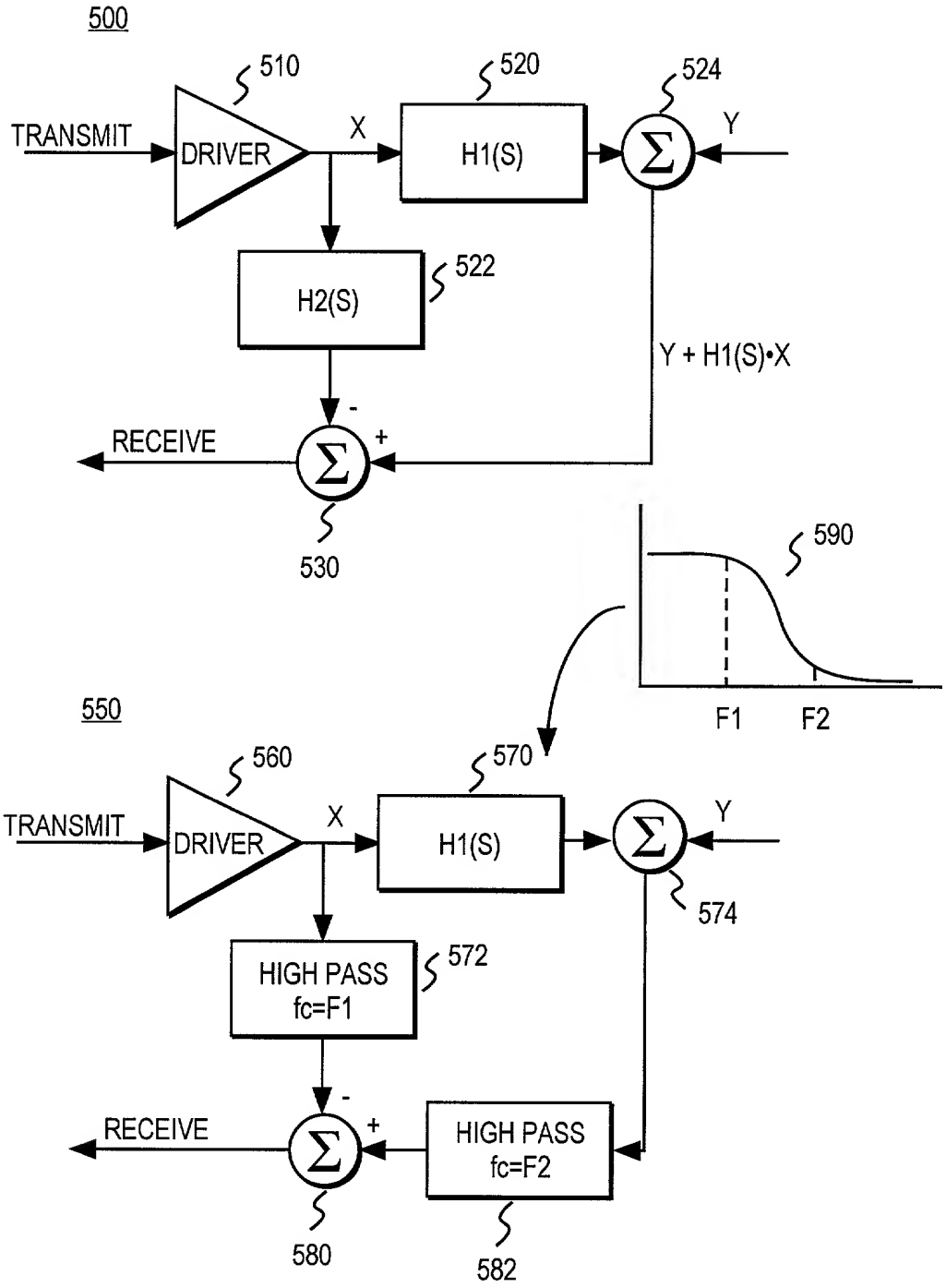
500
510
520
524
TRANSMIT
DRIVER
X
H1(S)
Y
H2(S)
522
Y + H1(S)•X
RECEIVE
-
+
530
590
F1
F2
550
560
570
TRANSMIT
DRIVER
X
H1(S)
Y
574
HIGH PASS
fc=F1
572
RECEIVE
-
+
HIGH PASS
fc=F2
580
582

FIG. 5

TOTOSO' 86TZ1860

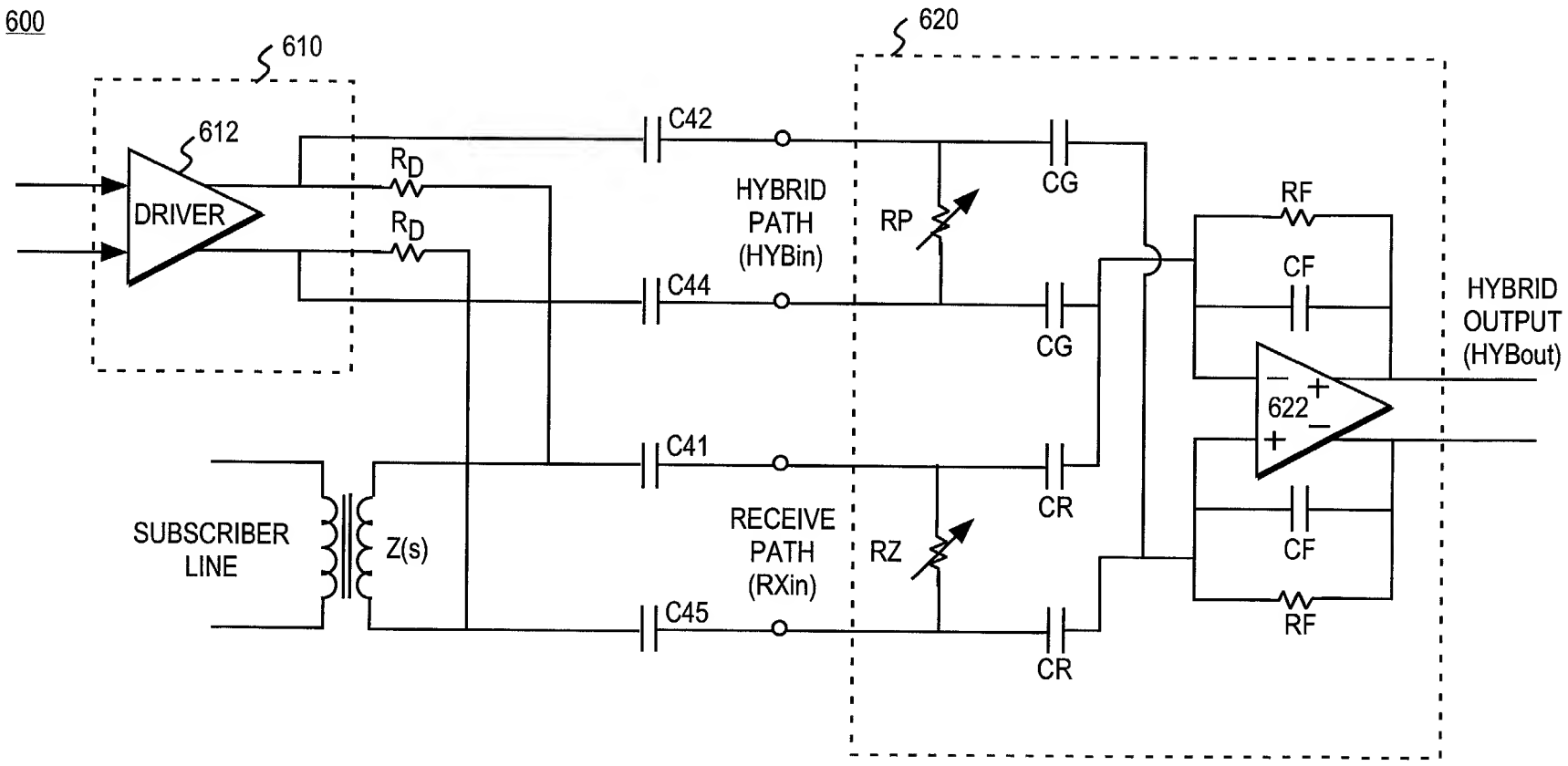

FIG. 6

TOTOSO 86Z4860

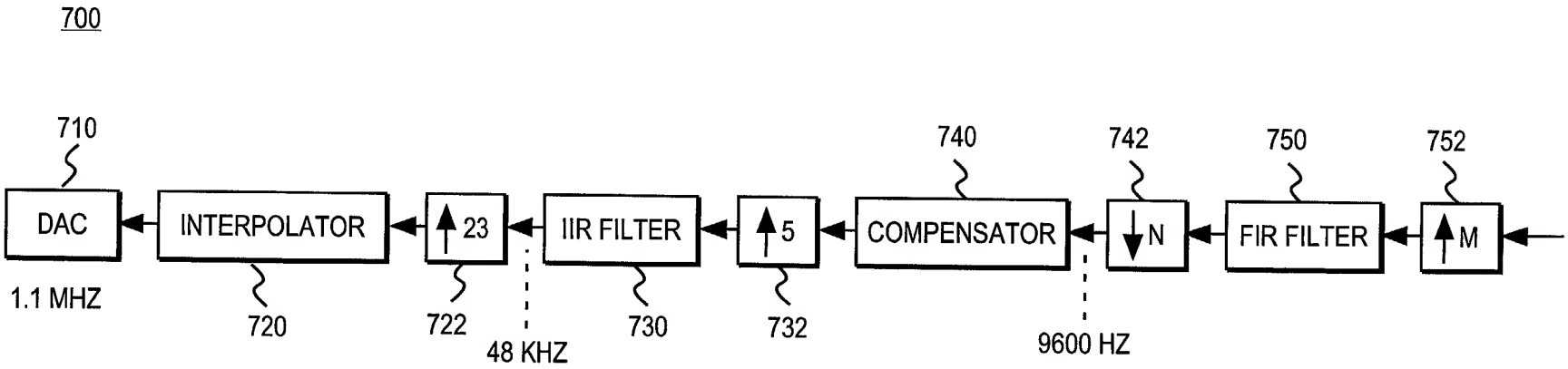

FIG. 7

EP 0 878 918 B1

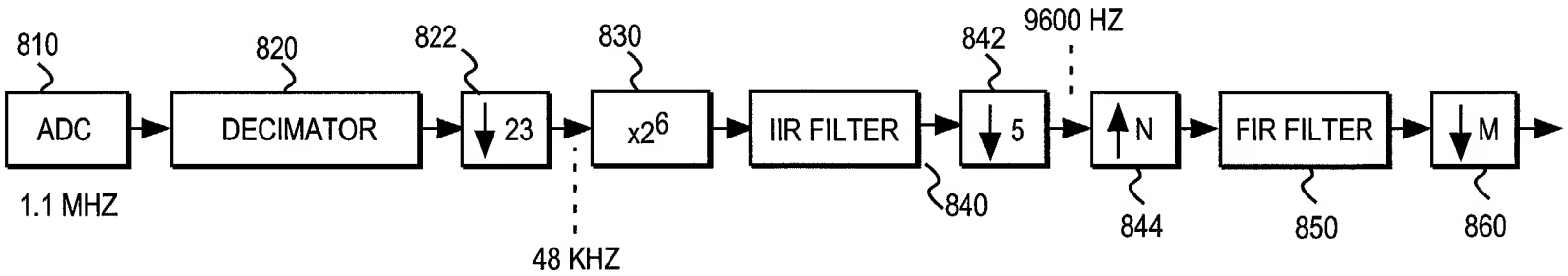

FIG. 8

900

	A->D			D->A	
f_i	M/N	OPT M/N	f_{audio}	N/M	N/M•f_{audio}
7200	8/6	16/12	9600	12/16	7200
8000	6/5	6/5	9600	5/6	8000
8229	7/6	14/12	9600	12/14	8228.57
8400	8/7	16/14	9600	14/16	8400
9000	16/15	16/15	9000	15/16	9000
9600	1/1	16/16	9600	16/16	9600
10,286	14/15	14/15	9600	15/14	10,285.71

FIG. 9

TOP SECRET

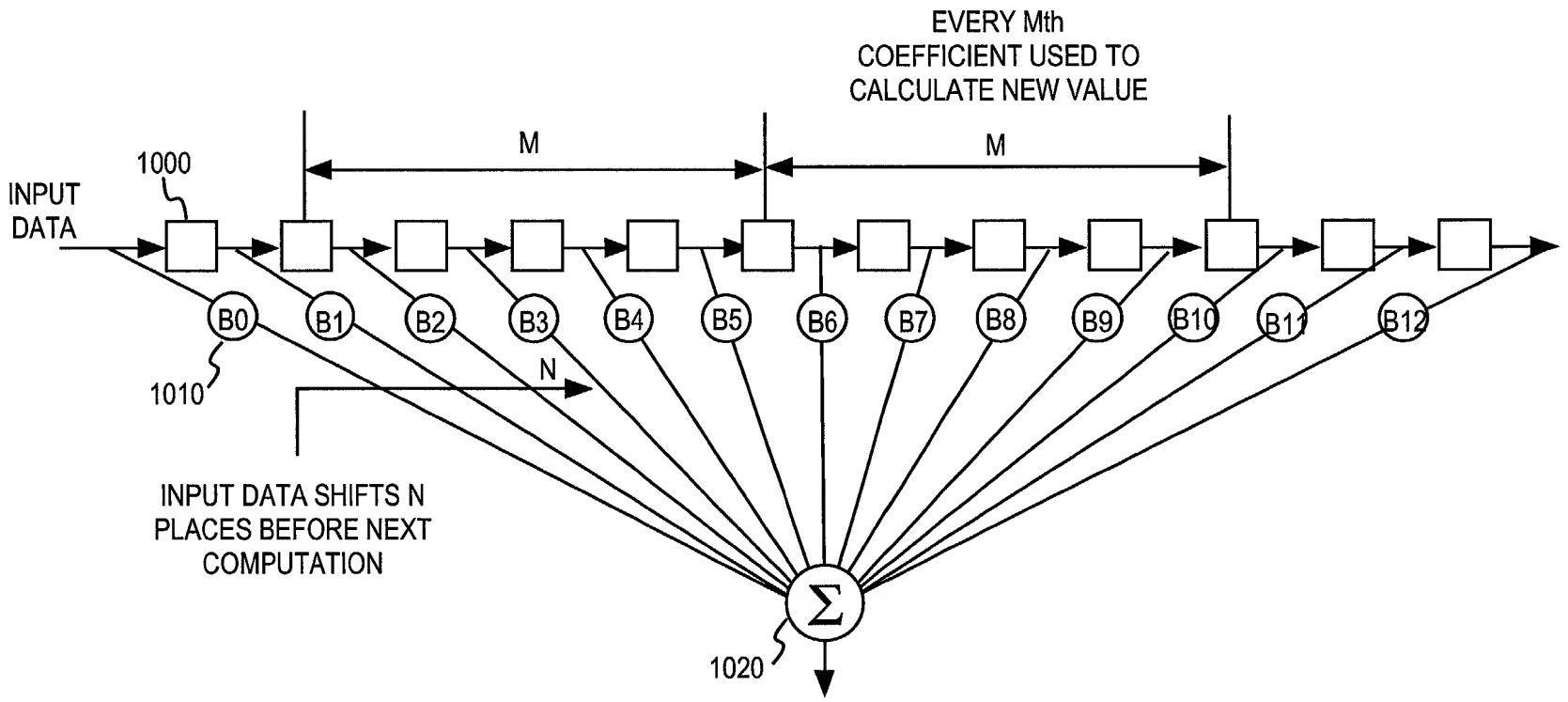

FIG. 10

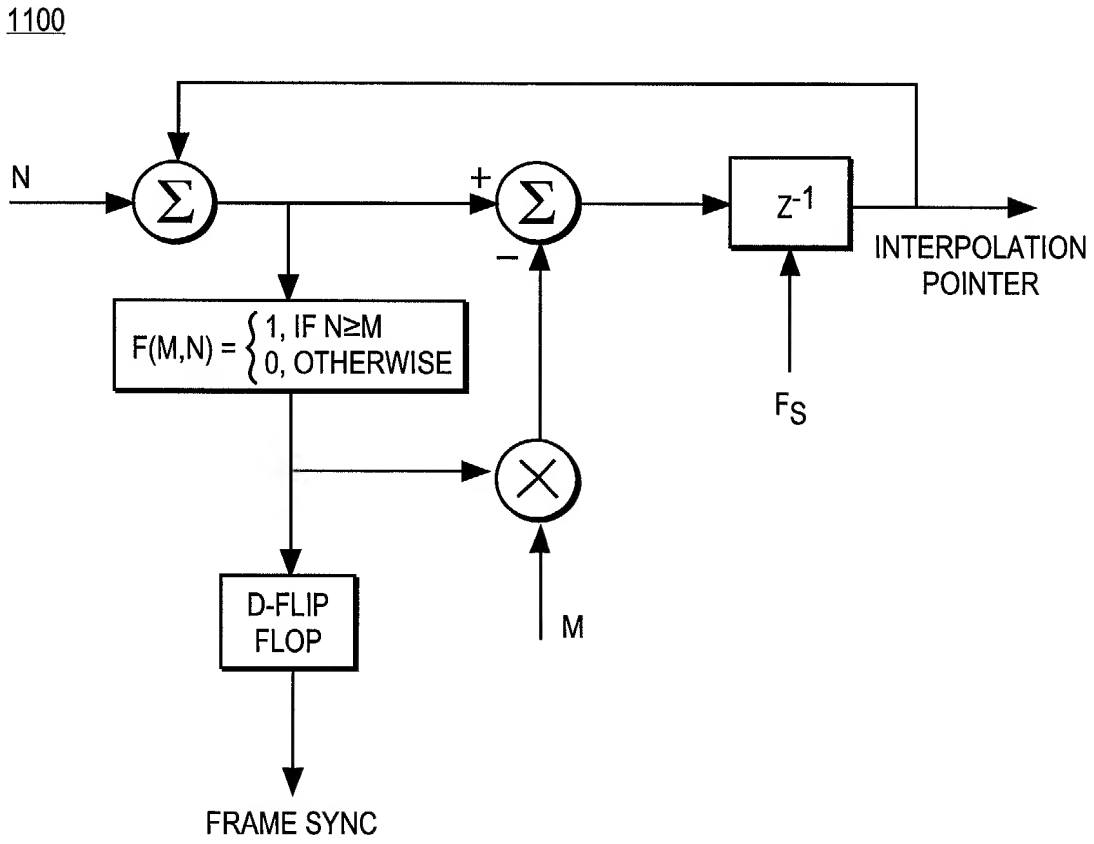
1100
N
Σ
+
Σ
−
Z-1
INTERPOLATION POINTER
F(M,N) = { 1, IF N≥M
0, OTHERWISE
FS
D-FLIP FLOP
M
FRAME SYNC

FIG. 11

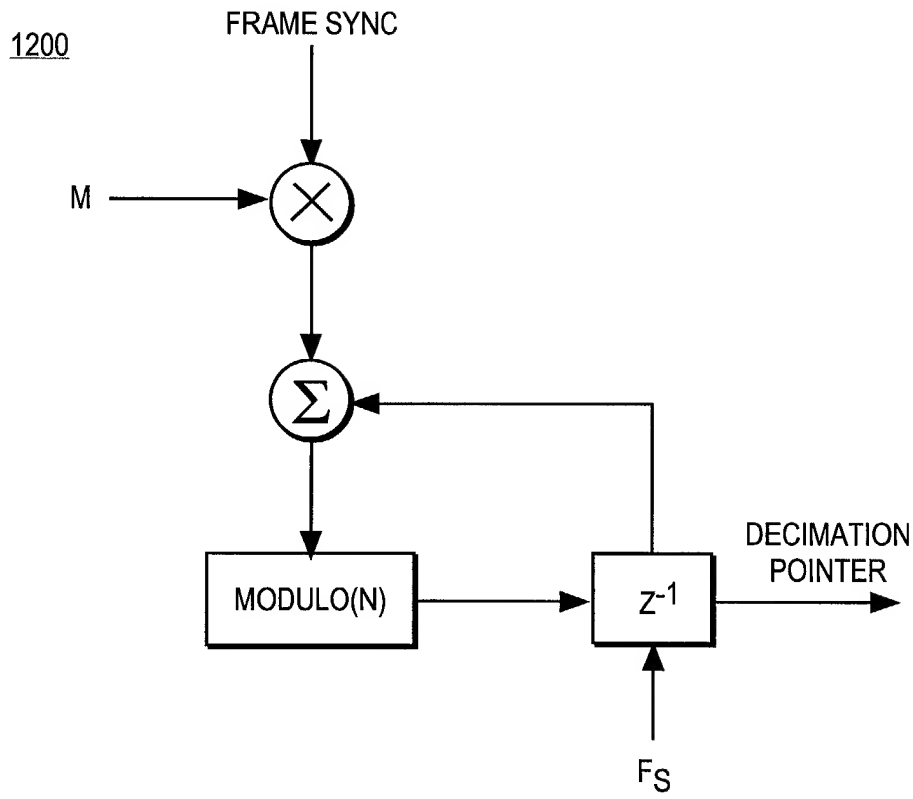

FIG. 12